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An Estimate of the Economic Impact of GIPSA's Proposed Rules on the Cattle and Hog Sectors

Prepared for:

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I. EXECUTIVE SUMMARY

The 2008 farm bill included new provisions that amended the Packers and Stockyards Act (PSA) to give poultry and livestock growers the right to cancel contracts, to decline arbitration as a means to resolving contract disputes, and to require processors to clearly disclose additional required capital investments. In June 2010 USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA) published a proposed rule to implement these regulations as mandated by the 2008 farm bill. But, the proposed rule, commonly referred to as the "GIPSA rule", added new regulations to clarify conduct that violates the Packers and Stockyards Act of 1921 (P&S Act). Some saw the resulting rule as going far beyond the intent of Congress, and contended that the rule altered business practices in a manner that was detrimental to producers, and limited consumer choice.

Before the USDA finalized the GIPSA Rule, Congress passed the Consolidated and Further Continuing Appropriations Act, 2012 which prohibited USDA from finalizing or implementing the most contentious parts of the GIPSA rule. Congress continued instituting appropriations riders to block these parts of the GIPSA rule but an appropriations rider was not included in the 2016 funding bill that passed in December 2015. As a result, in March 2016, Secretary of Agriculture's Tom Vilsack indicated the USDA will move forward with implementing the GIPSA rule, possibly finalizing it in September.

Informa Economics IEG was commissioned to conduct a study estimating the cost and revenue loss of implementing the rule to the beef and pork industries. As new language for the updated rule has not been released yet, it was assumed to be the same as the proposed rule from 2010 (not including aspects of the rule that have been approved and are currently enforced).

These estimates were aggregated to an industry-wide basis and worked through a simple supply-demand framework to arrive at an estimate of the change in output that was expected for each supply chain. This work indicates that the beef and pork industries will suffer significant economic damage should the proposed rules be implemented (Exhibit 1). Impacts were estimated to be nearly $1.5 billion to the beef and pork industries combined through direct and indirect costs. Specifically, the beef costs totaled approximately $955 million and the pork costs totaled $521 million. The fact that the estimated economic loss to beef and pork is high highlights the potential magnitude of the unintended consequences.

Exhibit 1: Aggregate Economic Impacts Across Beef and Pork Sectors

	Million $
One Time Direct Costs	$117.6
Ongoing Direct Costs	$138.2
Cost Increase Due to Efficiency Loss	$705.0
Revenue Lost Due to Quality/Demand Impact	$515.5
Total Supply Chain Loss	$1,476.20

It is worth noting that during the course of this study, it became clear to us that the provision in the rule that relieves plaintiffs from the burden of proving competitive injury is by far the most damaging. The expected efficiency losses and demand decline that forms the basis for the largest portion of the costs are tied back directly to the packer/processors' concerns regarding increased litigation and an increased likelihood that a very large financial judgment will be rendered against them. Additionally, as a result of the combination of new justification measures with this lower legal hurdle, there will likely be a strong incentive for further vertical integration as a way to mitigate this risk.

II. STUDY BACKGROUND AND OBJECTIVES

The 2008 farm bill included new provisions that amended the Packers and Stockyards Act (PSA) of 1921 related to livestock and poultry production and marketing. The farm bill required the U.S. Department of Agriculture (USDA) to propose rules to implement these provisions. In June 2010 USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA) published a proposed rule to implement these regulations as mandated by the 2008 farm bill. But, the proposed rule, commonly referred to as the "GIPSA rule", added new regulations to clarify conduct that violates the Packers and Stockyards Act of 1921 (P&S Act). Some of the most contentious parts of the GIPSA rule are:

- Section 201.210 which describes actions that the USDA considers <u>unfair, unjustly discriminatory or deceptive practices</u> that would be violations of the P&S Act. The USDA specifically notes that these actions do not require a finding of harm or likely harm to competition to be a PSA violation. This section included examples of unfair practices by meat packers and poultry dealers including:
  - Actions that a reasonable person would consider unscrupulous or deceitful;
  - Retaliatory actions, such as coercion or intimidation, in response to a lawful action by a producer or grower;
  - Refusal to provide statistical data used to determine contract payments;
  - Actions to limit producers' or growers' legal rights;
  - Paying premiums or discounts without documenting a reason;
  - Terminating a production contract based only on allegations of misconduct by a producer or grower;
  - Practices that are fraudulent or likely to mislead a producer or grower; and
  - Broadly any act that cause or creates a likelihood of competitive injury.

- Section 201.211 addresses <u>undue or unreasonable preference or advantage;</u> that is when producers who produce the same or similar livestock product receive different treatment or payment from contractors. This includes proposed regulations for differential pricing, recordkeeping and packer-dealer relationships. The Secretary of Agriculture would use three criteria to determine if livestock producers have been treated with undue or unreasonable preference in violation of PSA.
  - Whether contract terms were available to any producer or grower who could meet the terms of the contract;
  - Whether premiums for product standards were offered to a producer or group of producers who meet the standards; and
  - Whether information about handling, processing and the quality of livestock was made available to all producers if made available to one.

Before the USDA finalized the GIPSA Rule, Congress passed the Consolidated and Further Continuing Appropriations Act 2012 in November 2011 which prohibited USDA from finalizing or implementing the most contentious parts of the GIPSA rule. Congress continued instituting appropriations riders to block these parts of the GIPSA rule but an appropriations rider was not included in the 2016 funding bill that passed in December

2015. As a result, in March 2016, Secretary of Agriculture's Tom Vilsack indicated the USDA will move forward with implementing the GIPSA rule, possibly finalizing it in September. For example, sections 201.210 and 201.211 of the GIPSA rule are currently at the White House Office of Information and Regulatory Affairs, the last step before rules are proposed final or become final.

Technically it appears that the farm bill allows GIPSA a fairly broad interpretation in writing the regulations, but it also is readily apparent that the intent of Congress was for the regulations not to go beyond some relatively specific poultry and swine contract issues.

With this as a background, a heated debate continues within the livestock and poultry industries regarding the implications and economic impacts of these proposed regulations should they be implemented. While the rules have not yet been made public, the 2010 proposed GIPSA Rule could fundamentally change and negatively impact the livestock industry. Marketing arrangements currently used today would need to be changed. For example, the rule would require meat packers to justify and document price differences paid for livestock making it difficult for producers to negotiate premiums based on certain production practices or accept lower prices for livestock of lesser quality. One of the issues would be whether contracts between packers offering producers special premiums or pricing create undue pricing advantages for those producers. The rule would set criteria for USDA to decide if elements of these contracts violate the PSA. International competitiveness of livestock industry will be harmed and on-farm and processing jobs will likely be affected.

Objectives

This study estimates the costs to the pork and beef industries from the implementation of the 2010 GIPSA rule since the new rules have not yet been made public (not including those aspects of the proposed rule that have already been finalized such as the arbitration opt out option). These include direct costs (both one-time and ongoing), cost increases due to efficiency loss, and revenue lost due to quality/demand impact. This study does not address impacts on the poultry sector.

As one might expect, the task at hand is extremely complex in nature as the packing sector can be impacted by one or more of the proposed rules and each entity could be affected differently than others in the same segment of the supply chain. Since several of the proposed rules are rather vague in terms of what changes will actually be required of industry participants and how the regulations might actually be implemented, quantification of the ultimate effects becomes somewhat open-ended and hazardous. In some cases, the vagueness of the rule and the lack of any similar precedent forced Informa to utilize the knowledge and expertise of the study team to make "best estimates" of the economic impacts.

III. PROJECT METHOLODOGY

A. Industry Interviews

Gaining first-hand input from industry stakeholders was considered to be essential for identifying and measuring the financial and business impacts from the proposed GIPSA rules. Consequently, numerous interviews were conducted with stakeholders. Attempts were made to get specific input and data from companies and individuals as well as from different sized operations.

A list of contacts was provided to Informa representing entities that had agreed in advance to participate. Interviews were conducted by telephone and the issues and concerns raised during these interviews were taken into consideration when developing the analytic approach for estimating the impacts and costs of the proposed rules. The information and business intelligence gathered through the interview process was essential to the results presented in this report.

B. Industry Cost Survey

The proposed rules developed by GIPSA are extremely complex and, consequently, identifying all of the business process changes or new business activities that would be required to comply with the rules was difficult. Part of that difficulty is that many of the requirements related to the rule do not have a "clear business precedence" so often companies were uncertain as to how they were going to deal with changes and the costs of those changes had limited basis for comparison.

Informa dissected the various elements of the proposed rules and organized these elements into categories. A cost matrix survey was developed and sent to several companies. The rules are directed at these companies and they will experience the most significant changes in business practices and hence incur the bulk of the costs originating from this change. All industry participants were guaranteed that their cost estimates would be kept in strict confidence and only reported in aggregate for the study.

Informa industry experts were also challenged to provide estimates of the cost of implementing and complying with the various elements of the rule and these professional opinions were synthesized with those provided by industry participants. A consensus cost range for each of the various element categories was transformed into a cost-per-unit of production for each supply chain and then aggregated into an industry-wide cost.

C. Desk Research

Informa conducted a thorough literature search seeking other sources of industry data that might provide analytical guidance to the needed estimation process. One can certainly expect that companies themselves have a relatively good feel for how costs break down in their own operations but this data tends to be proprietary and consequently, little is available in the public sector.

Informa does have experience in evaluating industry costs. Informa did a similar study in 2010, "An Estimate of the Economic Impact of GIPSA's Proposed Rules," for the National Meat Association in cooperation with the National Cattlemen's Beef Association, the National Pork Producers Council, and the National Turkey Federation. That study interviewed beef, pork and poultry industry participants to determine expected responses to the proposed rule and expected costs and then used the information to determine impacts on the industries and U.S. economy. That study made one-time estimates of direct costs (associated with compliance to the proposed rule) to the beef sector of $39 million and to the pork sector $69 million. The ongoing direct annual costs were projected at $62 million for beef and $74 million for pork. The estimated indirect costs (losses due to reductions in product quality and/or efficiencies) were substantially higher, at $780 million for beef and $259 million for pork. Thus the total impact of direct and indirect costs on the pork sector were $401 million and $880 million for beef. Due to changes in the beef and pork industries and their structures over the past six years, an update of the previous study was necessary.

The 2010 Informa study and its results, in addition to other studies, were referenced in a 2015 report by the Congressional Research Service on the proposed GIPSA rule, and regulations based on the GIPSA rule that have since been added to the Code of Federal Regulations (CFR). These rules were published on December 9, 2011 in document 76 *Federal Register* 76874.

Among the recent CFR additions include sections on capital investment criteria, requirements, and prohibitions; criteria for time to remedy a breach of contract; and arbitration:

- Section 201.216 of the proposed rule was finalized in the CFR in §201.216, and incorporates section 201.217 of the proposed rule as criteria to determine violations of this section. In part, the finalized rule established criteria to consider whether or not additional capital investments required of a swine producer are to be considered "unfair" and in violation of the P&S Act.

- Section 201.218 in the proposed rule was finalized in §201.217, and in part sets forth criteria used to determine whether a packer, or swine contractor has provided a swine contract grower a reasonable period of time to remedy a breach of contract that could lead to contract termination.

- Section 201.219 of the proposed rule was finalized in §201.218, and in part provides contract livestock producers the ability to decline to be bound by arbitration clauses in contracts, and for producers to have the right to participate fully in arbitration.

Additionally, in March Secretary Vilsack indicated that the USDA was moving forward with implementing the GIPSA rule, which up until the FY 2016 appropriations bill had been prevented by Congress. As of the writing of this report, provisions of the GIPSA rule are under review with the White House Office of Information & Regulatory Affairs. Included in the provisions is a rule titled "Undue Preference and Advantage" which is in the proposed rule stage. This rule corresponds to section 201.211 of the proposed GIPSA rule of 2010 which set forth to establish criteria to be considered in determining if actions pertaining to undue preference and advantage violate the P&S Act.

Also being reviewed by the White House Office of Information & Regulatory Affairs is another rule titled "Scope and Unfair Practices" which is in the final rule stage. This rule corresponds to sections 201.3 and 201.210 of the 2010 proposed rule. Section 201.3 of the 2010 proposed rule set to establish that conduct may be found to violate sections 202(a) and 202 (b) of the P&S Act without being found to harm, or likely harm competition. Section 201.210 of the 2010 proposed rule would have established examples of what actions would be considered unfair, unjustly discriminatory and deceptive practices.

IV. IMPORTANT ELEMENTS OF THE PROPOSED RULE

The proposed rule changes described earlier will require multiple changes to how US beef and pork industry stakeholders conduct their business activities. Some of the potential changes in business activities could actually lead to changes in a company's asset structure as well as a broader change in industry structure.

A forensic review of the proposed rules was conducted and an attempt was made to identify all of the provisions that have economic significance and would require business process and supply chain alterations in order for supply chain participants to adhere to the rules as proposed. Informa finds the rules as written to be very open-ended and vague and thus a high degree of uncertainty exists at this point as to intent and interpretation from an implementation and enforcement perspective. Nonetheless, the study team identified the following broad areas described by the rule as those which have economic significance.

A. Justification of Differential Pricing

An important element of the proposed rules is a requirement for documentation to justify differential pricing. This would put increasingly more scrutiny on packer purchases of cattle and hogs in an attempt to ensure that the prices they are paying for those animals are reasonable and fair. As it stands right now, packers are able to use considerable discretion in paying premiums for livestock that meet certain quality thresholds or production practices and discounts for animals that are of a poorer quality. Requiring documentation to justify those price differentials would place a significant cost burden on packers as they would be forced to invest in technology to adequately and accurately maintain written and/or electronic records. A packer who chooses to absorb those costs may find themselves in an uncompetitive situation in the market and they will at least be forced to pass on those additional record-keeping costs to consumers and producers. Some packers may avoid these costs by simply paying one standard price for all animals, regardless of quality. Without the premiums associated with higher-quality cattle or hogs, livestock producers will likely put less effort into raising a higher-quality animal. The result of this would be lower quality beef and pork products, which would translate into reduced consumer choice.

Packers expressed concerns about the interpretation of this provision. While the quality-related differentials may be relatively straightforward, packers worry about differing prices paid simply because the market has "moved". For example, a packer may pay more for animals in the afternoon than in the morning simply because he wasn't getting enough animals at the lower price to fill his kill schedule. It is unclear whether or not the packer might be subject to a violation of the Act in such a case. Documenting this type of market differential will be much more onerous for packers than the documenting quality-related differentials.

B. Prohibition of Livestock Transactions between Packers

The proposed rules include a stipulation that "packers shall not purchase, acquire, or receive livestock from another packer or another packer's affiliated companies." This is critical because this is a common practice among beef and pork packers and would significantly change the nature of business transactions in the livestock industry. Take, for example, a pork packer who also owns and manages a live production unit as well. Right now, in situations where that packer-producer is caught running with an excess of hogs in the supply chain compared to their processing capacity, they can sell those hogs directly to another packer at the prevailing market price. With the proposed rule, that kind of transaction would not be allowed and would be forced through a third party or independent livestock dealer. Given that an independent dealer is not going to take on that role without being properly compensated, there will be a transactional cost associated with getting those hogs from the initial packer to their final destination. The increase in costs will eventually be accounted for by higher pork prices at a cost to the consumer and lower live animal prices paid to producers. Similar situations can be found in the cattle and beef industry.

Of special interest is the situation where producers may also be the owners of packing plants. There are several examples of this in both the beef and pork supply chains. For example, producers that own shares in a producer alliance, which may itself own a large proportion of shares in a packer, might meet the legal definition of packers and be prohibited from marketing their animals to another packer. Many of these producer/owners will sell large volumes of cattle to other packers because those cattle do not meet the specifications that their producer alliance requires. If those producers can no longer transact with other packers directly, a middleman would need to be inserted into the transaction. This would lower the price that the producer receives.

C. Limits on Livestock Dealers and Packer Buyers

Limits are placed on livestock dealers and packer buyers by the proposed rule. It states that dealers who operate as packer buyers must purchase livestock only for the packer that identifies that dealer as its packer buyer. Also, a packer may not enter into an exclusive arrangement with a dealer except those dealers the packer has identified as its packer buyers and reported to the Secretary of Agriculture on approved forms. It is common at many auctions, particularly at smaller ones, to find packer buyers bidding on cattle for multiple packers. This rule's intent appears to target the buying side of the market and encourage more bidders for those animals, possibly increasing the likelihood that sellers are receiving a "fair market price". However, if packer buyers were forced to purchase livestock for only one packer, it could be prohibitively expensive for packers to send individual buyers to every auction market. Over time, some business would dry up at the smaller markets because there would actually be fewer buyers attending those auctions. Livestock producers would then be forced to send their cattle to larger auction markets that are farther away. The increased transportation costs would be borne by the producer, thus lowering the effective price they receive for their cattle.

D. Changes to Hog Contracts

The proposed rule addresses other issues of fairness between swine contractors and contract growers. Much of this was initially included in the 2008 Farm Bill. Some of these requirements will apply in the pork industry, where entities designated as swine contractors enter into production agreements with swine growers.

While the estimated costs associated with restructuring contracts to comply with these proposed rules is dwarfed by potential costs associated with loss of efficiency, they are still significant and would be another added cost passed on to consumers over time.

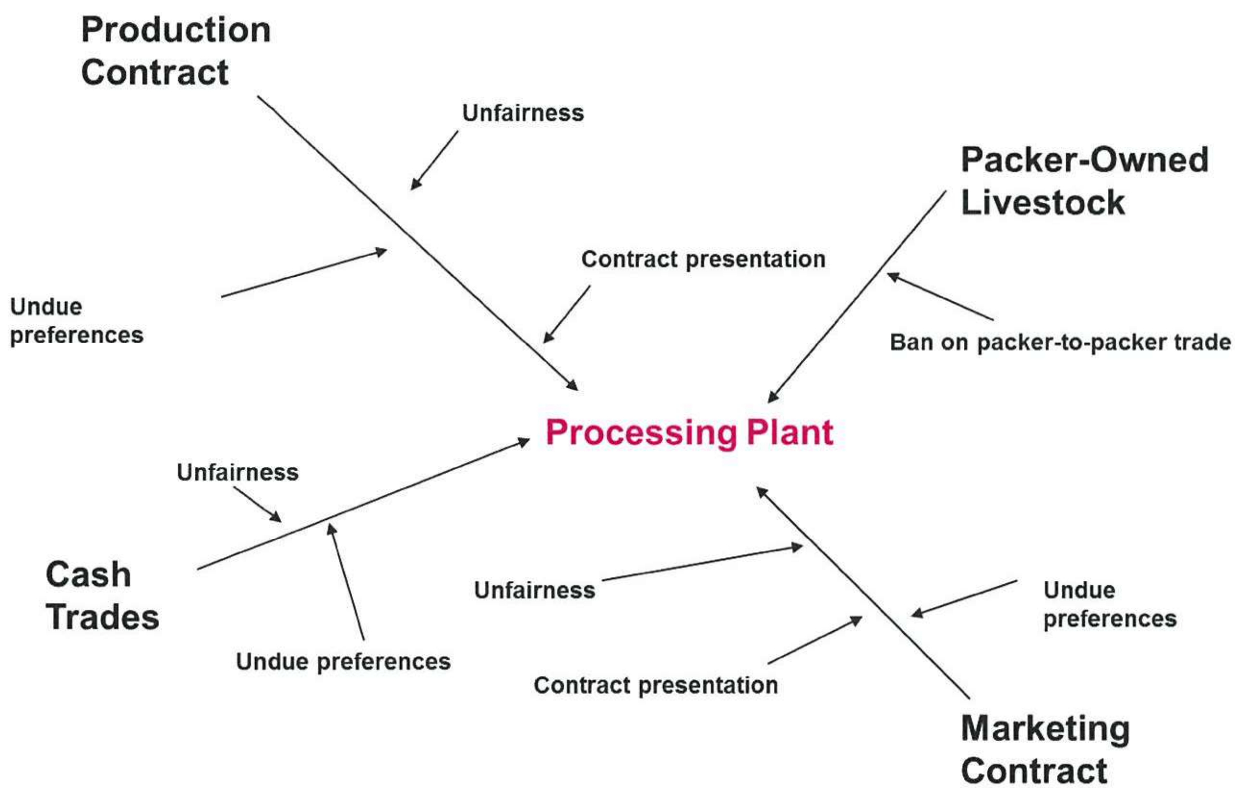
Some swine contracts have risk-sharing components that allow for ledger accounts where producers can essentially receive a loan from packers when the market price is below a reference or breakeven price and this loan gets paid back when prices are above the reference price. Producers place a high value on this contract feature. Packers benefit from this type of contract as well because it keeps valued producers operating at a less variable rate, thus limiting throughput risks. It is doubtful that packers could afford to finance these contracts for all of the hogs that they process. If they decide that offering such contracts to some, but not all producers puts them at risk for a violation of the Act as a result of the proposed rules, then these contracts may disappear.

E. Abolishment of the Need to Prove Competitive Injury

Perhaps the most contentious provision of the proposed rule is one that would no longer require producers who bring complaints under the Packers and Stockyards Act to show that the actions of the accused packer caused competitive injury. In many past legal proceedings damages have not been allowed because the plaintiffs have been unable to demonstrate that the actions of the defendant caused harm to competition in the market. With these rules, GIPSA is proclaiming that condition is no longer necessary to find damages under the Act. This provision was far and above the one that respondents claimed would cause the most harm. It was clear that many thought their company's overarching concern would be to limit legal liability first ahead of all other company concerns. For many of them, this could result in a reduction in the use of Alternative Marketing Agreements (AMAs), and moving to paying more of a standardized price regardless of production practices or quality. This would take away much of the progress that the industry has accomplished over the past several decades that has largely been consumer driven as producers altered production practices to deliver more consumer choice.

Exhibit 2 provides a visual representation of how the many rule elements will impact various business functions such as production contracts, cash transactions/trades, marketing agreements/contracts and packer-owned livestock. The segment of the supply chain that receives most of the focus is the livestock processing plant as most of the rules are directed toward issues related to the sale of live animals to slaughter/processing facilities.

Exhibit 2: Proposed GIPSA Rule, Areas of Impact



V. HOW RULE ELEMENTS WILL AFFECT INDUSTRIES

Not all of the elements that create a market or economic impact will occur in the pork and beef supply chains. Similarly, the rules that contain high levels of regulative authority related to livestock market transactions including a ban on packer-to-packer trade and restrictions on use of livestock buyers will impact the cattle and hog sectors in a major way. The rule dealing with market "fairness", undue market "preference" and market "discrimination" will impact all meat protein sectors as it exposes businesses in these supply chains to potential litigation issues. A discussion follows of some of the key business practices and supply chain processes that will require change based on a literal interpretation of the proposed rules.

In the pork supply chain, both production and marketing contracts exist and will be affected and the packer-to-packer and cash market issues will apply. In the beef vertical, production contracts are not a factor but all of the remaining areas will be affected: cash trades, packer-to-packer, livestock dealers, marketing contracts.

A. Cattle & Beef

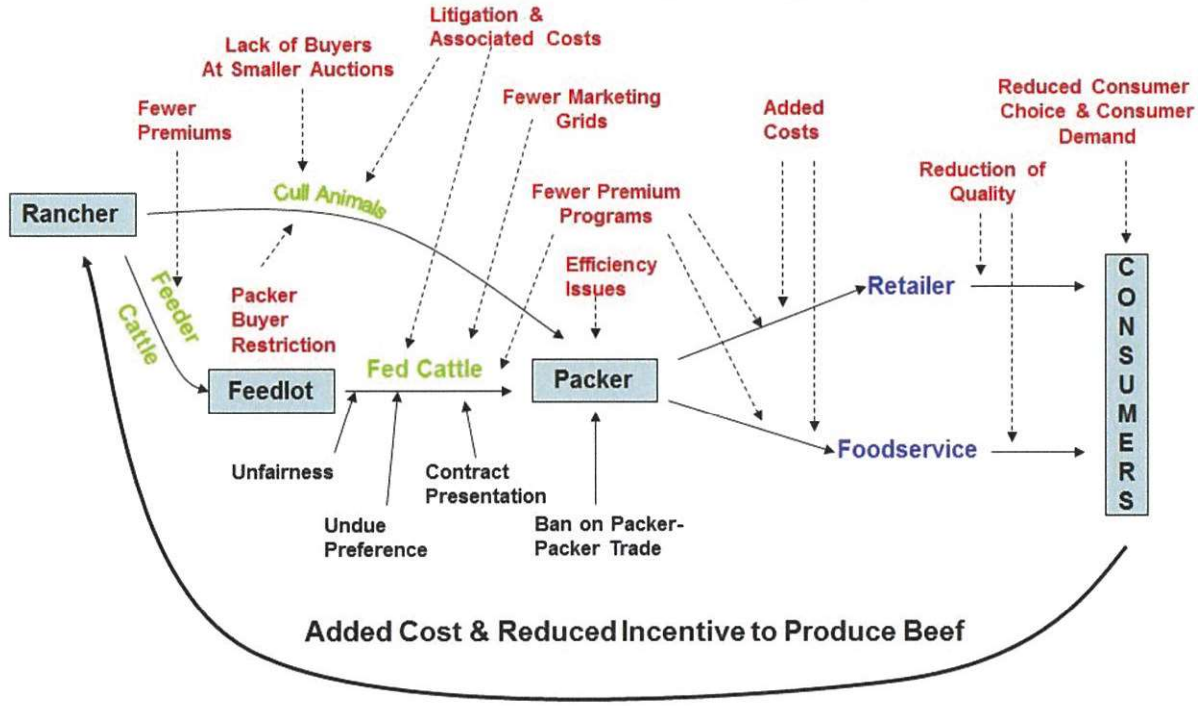
Exhibit 3 provides a view of the cattle and beef supply chain and focuses on those segments of the chain that will be directly affected by various elements of the proposed rules. Since the proposed rules are directed at business transactions between the sellers of cattle and cattle slaughter/processing operations, the supply chain economic impact will have its primary origins in the center of the supply vertical. Cattle sold by cattle feeding entities (large and small) will be directly affected as will other entities that assemble cattle for sale to packers such as dealers and auction sale operations. Packers that have direct or partial ownership of feedlot and/or backgrounding operations will be affected by the proposed rule that restricts packer-to-packer sales of live cattle as in many instances such cattle are not sold strictly within the packer's own vertically integrated system.

Given the broad nature of the proposed regulations, there will be supply chain impacts (both costs and sales prices) that affect stakeholders in the industry right from the cow calf/ranching sector all the way through the supply chain to consumers. In Exhibit 3 below, we attempt to reflect where these effects will occur and the nature of the business impact. In the end, implementation of the rules will add cost to the US beef supply chain as well as reduce incentives for industry participants to enhance quality and value added offerings. The methods by which businesses react to regulatory requirements will ultimately determine the magnitude of supply chain value loss that will occur.

Much of the direct impact of the rules as they relate to the beef supply chain will fall on the feedlot and the steer and heifer slaughter sector with likely pushback toward the cow-calf producer. Individual producers and other entities selling cull cows and bulls to cow/bull slaughter operations will be directly affected by the proposed rules as well.

New costs are anticipated as a result of the regulations that address market transactions between buyers and sellers of cull animals.

Exhibit 3: Proposed Rule Impact Diagram, Beef



In addition to the direct economic impacts on supply chain participants involved in the buying and selling of cattle for processing, changes in the rules will also have an indirect effect on supply chain participants who operate on both sides of the packer interface in the beef vertical. Of major interest and concern is whether implementation of the rules, as proposed, would seriously impact current cattle marketing agreements and other formalized quality-based programs that are built upon enhanced live animal and animal production specifications that provide premiums back to the producer. This study attempts to identify and quantify, where possible, both direct and indirect cost and revenue impacts related to the proposed rules.

The cattle and beef supply chain holds the most potential to be affected by the proposed rules as it is much more complex than the pork supply chain. There are many breeds and cross breeds of cattle that results in a broad range of animal quality. Genetic variability, which can result in a wide variety of carcass attributes, has given rise to multiple breed-oriented programs. Further, many quality-oriented specification programs, as well as premiums for alternative production practices have evolved as supply chain participants attempted to differentiate beef products to meet a broad range of consumer tastes and preferences (differentiated demand).

In addition to quality differentiation in live animal and beef products, the beef supply chain has multiple transaction points with many animals that progress through the supply chain being bought and sold three or four times before the animals are processed. Differentiated consumer beef demands result in a broad range of price premiums (and in some cases, discounts) relative to a benchmark cattle price. This mix of pricing differentials seems to be one of the targets of some components of the proposed rules. There is a notion that not all cattle being transacted receive "fair" market value and portions of the proposed rules are focused at regulating what "fair" means and that in itself creates huge issues for the industry to deal with.

The beef industry is also relatively concentrated as very significant economies of scale have driven the industry toward a structure that is dominated by a few large firms. The top four cattle slaughter operations in the US account for approximately 80% of the annual steer and heifer processing. There are other slaughter operations (mostly single plant firms) that compete in this segment of the beef supply chain and yet another group of operations that specialize mostly in the slaughter of cull animals (cows and bulls). Proposed restrictions on packer-to-packer cattle sales will be particularly onerous on several of the industry's slaughter operations.

The US cattle and beef industry has a modest degree of vertical integration with some slaughter operations also whole or part owners of cattle feeding operations. For those firms that are involved at multiple levels of the beef supply chain, the new rules would prohibit them from selling their feedlot cattle to slaughter operations other than their own. In order to avoid violating the rule, additional transportation costs might need to be incurred or there could be added costs for selling these cattle to a third party who would then sell the animals to a slaughter operation. Companies that are integrated between the feedlot segment and the slaughter segment of the industry may find business reasons to become even more integrated or alternatively, to divest of assets in one of the business segments.

The schematic of the cattle and beef supply chain (Exhibit 3) and the schematic of the proposed rule elements (Exhibit 2) provide the broad basis from which Informa developed economic impact measures. The complexity of the rules and how they would impact the cattle and beef industry resulted in segmenting the economic analysis into multiple components. It was determined that there would be a host of one-time costs associated with putting in place processes and measuring mechanisms to deal with some aspects of the rule. There would also be on-going costs associated with these business process changes.

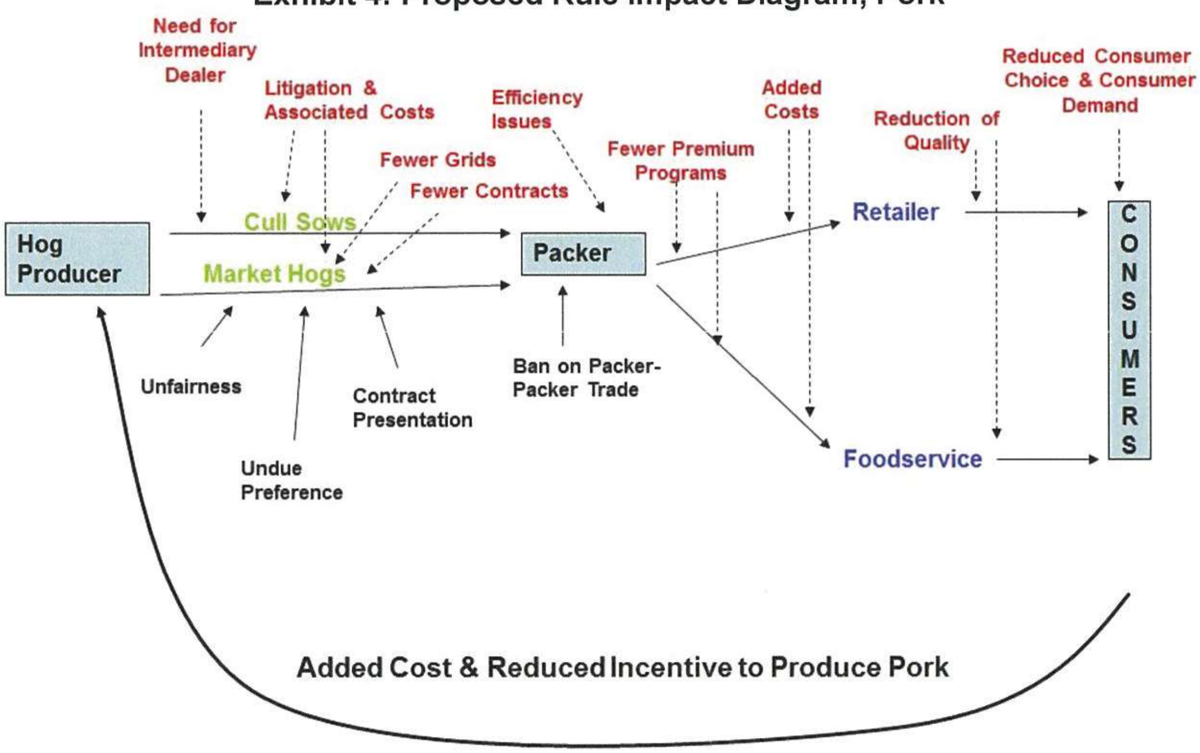
B. Hogs & Pork

Exhibit 4 provides a very simplified schematic of the US hog and pork supply chain. The pork supply chain is much simpler than the one for beef, but it is much more concentrated and integrated. This creates the potential for enhanced regulatory impacts should the proposed rule changes be implemented. This is particularly the case as it relates to issues of competition, fairness and litigation issues.

As with the beef supply chain, the pork supply chain will be affected primarily at the interface of financial transactions between producers and slaughter operations. Certain features of the proposed rules will also impact producer-to-producer business arrangements as some independent hog feeding operations do have contractual relationships with growers even though they do not have direct financial linkages to a slaughter facility. Regulations relating to contracting activities will have impacts on these business relationships that fall outside of packer transactions.

Vertically integrated hog systems will be impacted less than will independent hog production systems. The contracting of hog production whether by integrators or independents will be affected by those rules that relate to market fairness. Market hog transactions as well as the sale of cull sows and boars will be affected by the ban on packer-to-packer trade. Such a ban will require reorganizing businesses to either utilize all internally produced market hogs within the vertical system or, if this is not possible or feasible, sell such animals to independent third party entities. Such a requirement will add costs and inefficiencies to the flow of hogs to market. For cull animals, integrators will be banned from selling these culls (or market hog outliers) to other packers so, in essence, the rules will infuse another cost; another margin and added inefficiencies into that portion of the hog trade that involves sales of animals between slaughter entities not owned by the same firm.

Exhibit 4: Proposed Rule Impact Diagram, Pork



Due to the geographical dispersion of the US hog production sector and a rather complicated network of vertically integrated operations and small/medium/large independent hog production facilities, there will be industry organization challenges should the proposed rules be implemented as written. Packers do sell hogs to other packers but there are generally strong economic and geographical reasons why such trade with sow slaughter operations occurs to handle the disassembly of their cull sows. All of these business transactions will need to change and such change will lead to higher direct industry costs, lost efficiencies—and in all likelihood—reduced revenue opportunities for the seller of the sows.

C. Retail and Food Service Sectors

At this point in time food retailers and food service operators appear to still be largely unaware of the proposed rules and the possible ramifications for their operations. The rules have received very little if any coverage in the retail trade press and to date has been seen as an issue between packers and producers only.

This is unfortunate in that the rules could have a significant effect on retail and food service if either premium programs are reduced or if they are maintained but at significantly higher cost due to supply chain inefficiencies.

As of August 9, 2016, the Agriculture Marketing Service of USDA listed 143 Certified Beef Programs but these do not include many producer, packer and retailer brands that are not registered with USDA. The 2015 National Meat Case Study[1] indicated that the percentage of packages in retail stores carrying a production claim (USDA Organic, all natural, grass fed) surged in 2015. Store branding rose to 51% in 2015, compared to 36% in the 2010 survey. There is also a considerable amount of branded beef sold through foodservice distributors. All of the major packers have branded beef programs, along with several of the midsized and smaller firms. Freshlook data indicates 2015[2] annual retail beef sales dollars of $24.9 billion and annual beef sales in tonnage of almost 4.5 billion lbs. At 46% of sales, the retail branded beef (supplier brand, non-store brand) would account for 2.1 billion lbs as of 2015.

These branded programs at retail and food service have added incremental sales as the wholesale premiums are passed through to the consuming public and margins at retail have increased due to these premium prices as a significant number of US consumers show a willingness to pay a premium price for high quality meat products that deliver a great eating experience.

The 46% of beef sold in retail food stores is branded either under a premium brand such as Certified Angus Beef, a packer brand such as Cargill's Sterling Silver or a house or retail brand such as Publix Premium Certified Beef. These branded programs are dependent on the packer/suppliers ability to acquire enough cattle of the specified grade and quality to satisfy the retail demand for the product.

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[1]http://www.meatconference.com/sites/default/files/books/Jerry%20Kelly%20-%20Dynamics%20of%20the%20Meat%20Case.pdf
[2]http://www.beefretail.org/CMDocs/BeefRetail2/Sales%20Data/Sales%20Featuring/1_16-Top-Line-Final.pdf

Should the rules reduce the number of cattle available that meet the required specifications some retailers may lose their branded program and therefore lose their competitive differentiation in the marketplace. Any reduction in qualifying cattle can be expected to increase the cost of the product, an added cost many retailers may be unable to pass through to the consumer due to the competitive nature of the retail marketplace. Either a reduction in program availability or increased product costs due to limited supplies of quality cattle or higher prices due to supply chain inefficiencies will have a negative effect on retail sales and on retail profit margins.

The same situation exists in food service where an increasing number of operators have moved to certified/branded programs and market those programs on their menus and in their advertising as a point of differentiation and a sales and margin enhancement strategy. In addition, it is the food service sector that is the current primary user of Prime, natural, grass fed, hormone free and other premium programs being demanded by and introduced to certain consumer groups.

Pork is likely less subject to direct impacts of the rules at retail and food service in that typical supermarket and food service product needs have historically been more consistent and standardized than for beef. However, the growing market share in natural and/or organic programs; hormone free, and increasing state regulations concerning animal welfare are also creating carcass premiums that are inconsistent in definition, standard or state to state requirement. Until these standards and definitions are applied universally there is great risk that under the proposed rules these programs could be eliminated or watered down in an effort to avoid potential legal liability resulting in similar outcomes to those of beef but on a somewhat smaller scale.

The retailers most at risk to the unintended consequences of the proposed rules are those retailers who have invested the most time, effort and money into providing their customers with high quality meat at competitive prices and are therefore the leading food companies in terms of sales, profitability and customer satisfaction. Those operators that have done the least to provide quality food at fair prices will see much less impact than the industry leaders.

VI. DIRECT COSTS

Costs imposed by the proposed GIPSA rules were divided into two categories: direct costs and indirect costs. Direct costs are those that will require an outlay on the part of a company in its effort to comply with the rules. An example would be new computer software or the hiring of additional staff. Indirect costs refer to those costs that will impact the industry in a broad way and are more likely to develop over time than at the rule's inception. Examples would include costs associated with losses in efficiency and declining product quality. Direct costs are further divided into two sub-categories: one-time and ongoing. This section provides a brief description of the direct costs considered.

Exhibit 5: Specific Direct Cost Categories

	Beef	Pork
1.Cost Areas Associated with Differential Pricing		
• Information systems for tracking	✓	✓
• Contract review for compliance	✓	✓
• Re-writing and Renegotiating contracts	✓	✓
• Documentation of quality differentials	✓	✓
• Documentation of market differentials	✓	✓
2.Cost Areas Associated with Submitting Sample Contracts to GIPSA		
• Collecting Contracts	✓	✓
• Obliterating identifying information	✓	✓
• Transmission of sample contracts	✓	✓
3.Cost Areas Associated with Limits on Livestock Dealers		
• Retaining dealers to work exclusively with the company	✓	✓
• Additional internal labor	✓	✓
4. Cost Areas Associated with Packer-to-Packer Transactions		
• Route transactions through broker or other third party	✓	✓
• Additional transportation	✓	✓
• Asset divestiture costs	✓	✓
5. Cost Areas Associated with Increased Litigation Potential		
• Additional legal staff	✓	✓
• Court costs, filing fees, research and investigation	✓	✓
• Restructuring to limit legal exposure	✓	✓

A. Cattle & Beef

Exhibit 5 provides a listing of the specific business activities that were identified by the study team based on the team's knowledge of the cattle and beef supply chain as well as from input gathered from interviews with supply chain participants. The objective of preparing such a list was to provide a structure around which cost estimates would be made measuring one-time supply chain costs as well as cost estimates that would be ongoing. Industry stakeholders were asked to provide specific input relative to these business process changes and, while it was not possible to get data from all firms operating at the primary slaughter level of the beef supply chain, sufficient primary data was collected to provide a consensus estimate of the costs companies would incur to position themselves for complying with the proposed rules.

Asset divestitures may be the best option for some packers in response to provisions of the rule and a category was included to capture those costs. A feedyard owned by a packer but located far away from the packer's processing facility might need to be sold should the packer-to-packer sale ban be implemented.

B. Hogs & Pork

Not unlike the cattle and beef industry, the hog and pork industry is going to be impacted by the various elements of the proposed GIPSA rules in a multitude of ways. Businesses will need to construct or upgrade information systems that will allow them to track individual market transactions. That might require installing new computer systems with software that will provide an automated way of documenting the payment of market price differentials. With the requirement to justify the payment of price differentials (premiums and/or discounts), comes the need to track these transactions and then harmonize those with quality and performance differentials in order to document that the prices paid are legitimate and consistent with the incremental value of the hog. It is easy to see that just putting in place the tracking mechanisms for justifying differential pricing will be a timely and costly activity.

Exhibit 5 categorizes the major cost areas that will need to be addressed by the pork supply chain to comply with the proposed rules. The areas are similar to those listed for the cattle and beef sector. The integrated nature of a portion of the hog and pork sector suggests that not all market hogs will be impacted by some of the process requirements and in those cases, adjustments were made to the cost estimates to reflect these structural issues.

There are six major business components or functions that will require business process changes by the hog and pork sector. In addition to setting up processes for dealing with recording the differential pricing issue, there may also be a need to review and/or re-negotiating current contracts that spell out in very specific terms the pricing elements of these contracts. Since many packers utilize packer buyers or dealers to procure some percentage of their ongoing slaughter requirements, costs will be incurred to rearrange this business activity. New personnel and new business arrangements may be required and failure to actually operate as effectively may result in increased costs associated with reduced slaughter plant efficiencies.

Hog slaughter operations will be affected by the ban on packer-to-packer transactions as presently some hog production operations owned in an integrated production system sell some or all of their production to other packers. This is normally due to geographic location of the hog production unit relative to location of the integrator's slaughter facilities.
To minimize transportation costs and optimize overall revenues, these hogs are sold to the "competition". We believe GIPSA's concern is that packer-to-packer sales provide packers the opportunity to influence prices and/or have better price intelligence than others in the market. With mandatory price reporting on live hog sales, it is unlikely that such an advantage actually exists.

The packer-to-packer restrictions will also have a major impact on the merchandising and pricing of cull animals (sows and boars). Those involved in slaughter of these cull animals typically procure their sows in a variety of ways and have established procurement systems that allow for optimization of the value of these residual animals. Many integrated hog production systems sell their sows directly to sow slaughter operations or through a company-owned marketing firm. Such activity would be restricted and, while other business structures would surely evolve, costs associated with the cull segment of the industry would be increased.

The elements of the proposed rule that deal with competition and the added threat of litigation are high on the list of potential disruptive and costly factors associated with the proposed rules. Those in the business recognize that they might be subjected to litigation whether or not there is due cause and this threat may very well cause companies to change dramatically the way they are conducting business.

Finally, we included a category for the cost of asset divestitures if it is obvious route that a company would need to take upon rule implementation. For example, a pork packer may own a hog production facility in a particular geographic region but no processing plant. Historically that packer has sold the production from the facility to other area packers. With the packer-to-packer ban that could no longer occur and given that transport to the packer's own facilities is infeasible, the packer might determine that divesture of the production asset is the best course of action.

C. One-Time Direct Costs

The analysis conducted by Informa utilized input from industry stakeholders as well as internally generated cost estimates with consensus forecasts being developed. One-time direct costs as shown in Exhibit 6 ranged from an estimated $20 million for the beef sector to an estimated $98 million for the pork industry. The per-head one-time costs for the two industries are comparable but the larger annual hog slaughter volume does raise the overall pork industry direct costs above beef.

Exhibit 6: Meat Industry One Time Direct Costs

Supply Chain	Million $
Beef	$19.6
Pork	$98.0
Total	$117.6

D. On-Going Direct Costs

Exhibit 7 provides estimates by species and in total for ongoing direct costs. These are costs that the industry will be burdened with year after year as business practices change to allow for compliance with the proposed rules. As can be seen, the ongoing direct costs are larger than the one time direct costs for beef and marginally smaller for pork, and for the two species add up to a total economic impact of approximately $138 million on an annualized basis.

Exhibit 7: Meat Industry Ongoing Direct Costs

Supply Chain	Million $
Beef	$44.5
Pork	$93.6
Total	$138.2

VII. INDIRECT COSTS

A. Cattle & Beef

Importantly, the proposed rules could have a major impact on the multitude of branded beef programs as well as other beef merchandising programs with quality differentials. Industry participants made it abundantly clear that to limit legal liability, companies in the packing sector would strongly consider reducing the number and types of Alternative Marketing Agreements (AMAs) that they are involved with. This in turn, would make it more difficult to reward producers for raising cattle that meet the specifications of branded and specialty beef programs. The US cattle and beef industry has spent the past 20 years improving the quality of the beef being brought to market and much of this improvement has been the result of proprietary business programs and supply chain alliances which have allowed added value from the programs to be shared by those creating that value. This typically involves premiums for the cow calf producer, the backgrounder, the feedlot as well as the slaughter operation. At the extreme, many of these programs might be threatened as the potential for litigation because of "fairness" or "preferential treatment" is elevated due to certain elements of the proposed rules that deal with competition. Much of this progress in the beef supply chain has resulted in increased benefits to the producer, and firms made it clear that if they had to minimize legal risks by limiting the number and variety of AMAs that this would ultimately hurt the producer. Much of this variety in the agreements has been the at the request of progressive producers, and this portion of the rule has the potential to remove much of the progress the industry has made the last two decades. Some interview respondents suggested that they may be forced to move away from these agreements altogether and operate only in the cash market.

All of the packer respondents indicated that the number of AMAs offered to producers would decline dramatically with implementation of the proposed rule. Also, potential premiums would be adjusted, likely downward, as the elements of marketing agreements would shift toward "the lowest common denominator" in order to avoid accusations of unfairness and to avoid the possibility of litigation. This would reduce the incentive for producers to go to the extra effort, management and costs of producing higher quality animals. Ultimately, this would jeopardize several of the branded meat programs that have been developed over the years to increase meat quality and improve consumer demand. But these higher quality animals do not disappear right away. In the short run, packers will "cream the coolers", doing more sorting of carcasses to meet the needs for the various branded programs. Over time, the lack of incentive to produce the higher quality animals will lead to more commodity-style beef and pork being produced, with overall average quality declining. Packers will assess the various branded meat programs to identify those providing them with the best return. To keep from diluting or losing those selected programs, they would tend to feed more of their own animals (increase packer ownership of livestock) to fit the branded program specifications.

B. Branded Beef Programs

Evidence from the interviews and surveys suggested that branded and specialty beef programs could be endangered if beef packers reduce the number and complexity of AMAs. Therefore, the study team evaluated the branded beef market to more accurately quantify the potential indirect costs that loss of these programs would imply.

In the 2008 Livestock Mandatory Reporting Final Rule, USDA defines "branded" beef as follows:

"The term 'branded' means boxed beef cuts produced and marketed under a corporate trademark (for example, products that are marketed on their quality, yield, or breed characteristics), or boxed beef cuts produced and marketed under one of USDA's Meat Grading and Certification Branch, Certified Beef programs."[3]

As of August 14, 2016, the Agricultural Marketing Service of USDA listed 143 Certified Beef Programs. But this is not a complete list of the branded beef programs existing in the US. There are several producer brands, packer brands and retail brands that are not registered with USDA. Additionally, the branded product reported by USDA under livestock mandatory reporting is a subset of the total branded beef products sold in the US, being limited to negotiated sales for delivery within 0-21 days and product grading upper two-thirds of the Choice grade. At least 52 of the 143 listed branded beef programs allow beef from cattle grading Select or lower. Still, the data provides the opportunity for a partial analysis of the value of branded beef programs.

The weekly National Comprehensive Boxed Beef Cutout (LM_XB463) provides cutout values for the various categories of boxed beef. The difference between branded boxed beef and non-branded beef is shown below:

Since the start of mandatory livestock reporting in 2002, the premium at which branded beef has sold over non-branded beef (on a carcass cutout basis) has ranged from approximately $3/cwt to nearly $25/cwt (Exhibit 8). On a per head basis, the calculated premium has averaged just over $68 per head.

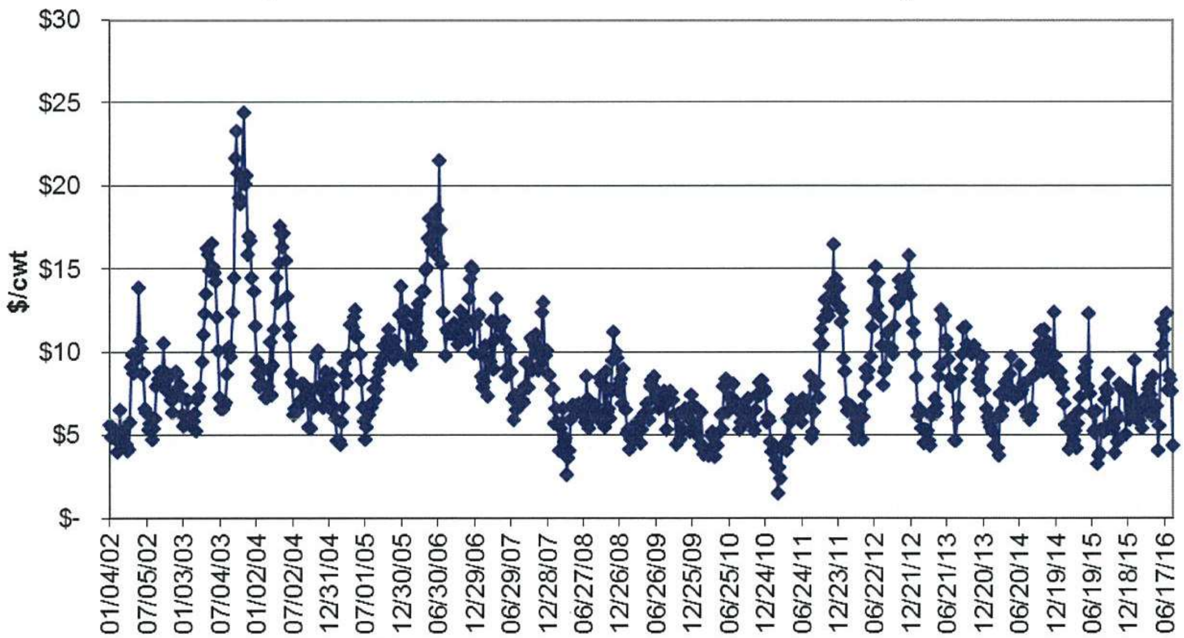
Using average steer and heifer carcass weights, the average annual premium on boxed beef sales reported by USDA over non-branded beef is shown in Exhibit 8. Even with 2014 and 2015 being the two highest years for wholesale beef prices, the premiums on branded beef programs were not very different from the long run average, and equal to or above the recessionary years. This is not only the case for branded beef, but also for the premium of Prime grade beef over Choice grade beef. Still, consumers have shown willingness to pay significant premiums on branded beef products.

The figures reported by USDA are based on packer sales into the wholesale beef market. For producers involved in supplying cattle to packers for branded beef

[3] Federal Register /Vol. 73, No. 96 / Friday, May 16, 2008 /Rules and Regulations, page 28635

programs, a portion of the premiums achieved by the packers will be passed back to the producer. The amount will vary by program and by the quality attributes required by the programs. BEEF magazine recently published a listing of 23 producer alliances[4]. Where available, descriptions of desired characteristics, production practices, premium amounts and number of cattle involved in the programs were provided. In many cases, the average premium paid was described as variable by packer and grid being used. Where dollar amounts were reported, they varied considerably, with many running in a range from $20
per head to $200 per head. One of the largest programs for which some details are available was for U.S. Premium Beef, LLC. The number of cattle in the alliance for 2015 was reported at more than 754,000 head with an average premium of $49.25 per head. The number of cattle involved in the various alliances amounted to more than 6.6 million head, not including those programs where the numbers were not available or considered confidential. The feedlots involved in these various alliances are not the only ones eligible for premiums. There are at least 10 programs that provide post-harvest premiums back to cow-calf operators.

Exhibit 8: Premium on Branded Boxed Beef Sales
(Branded Cutout minus Unbranded Product)



Source: USDA, National Comprehensive through Jul. 29, 2016

Some of the largest premiums listed in the 2015 Alliance Yellow Pages involved the production of "natural" cattle, where the premiums could be as high as $200 per head. As is the case with the Certified Beef Programs listed with USDA-AMS, the 2015 Alliance Yellow Pages is not an exhaustive list of producer alliance programs in the US beef industry.

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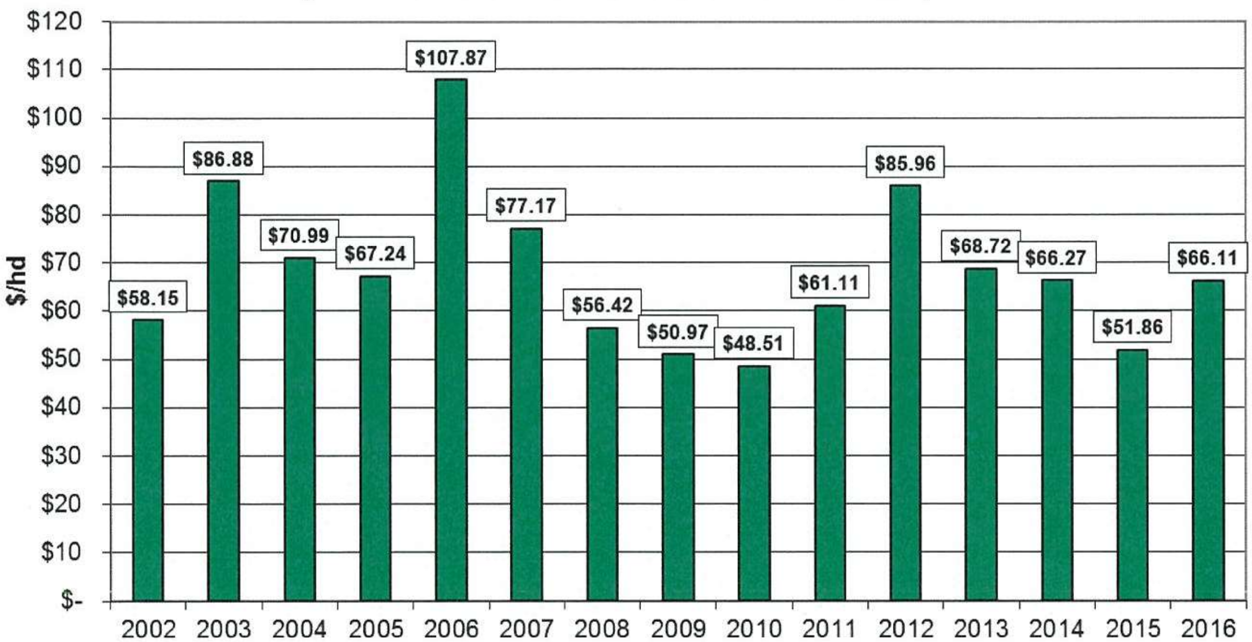
[4]http://beefmagazine.com/site-files/beefmagazine.com/files/uploads/2015/06/2015%20Beef%20Magazine%20Value%20Based%20Program%20Listing.pdf

The 2015 National Meat Case Study indicated that the percentage of packages in retail stores carrying a production claim (USDA Organic, all natural, grass fed) surged in 2015. Store branding rose to 51% in 2015, compared to 36% in the 2010 survey. There is also a considerable amount of branded beef sold through foodservice distributors. All of the major packers have branded beef programs, along with several of the midsized and smaller firms. While the proportion of fed beef sold as branded beef varies by company, Informa estimates that at least one-third of the beef from steer and heifer slaughter is sold under a branded beef program. The value added from the various branded beef programs, including organic beef and natural beef, is estimated at approximately $730 million per year.

Exhibit 9: Annual Premium on Branded Boxed Beef Sales (Branded Value minus Unbranded Product)



Source: USDA, National Comprehensive

through Jul. 29, 2016

To reiterate, this is only a partial analysis of the value of branded beef programs to the US cattle industry. The available data does not cover all of the programs, producers and animals that are involved in producer alliances and branded beef programs. The premiums that are attained by cattle producers can be substantial. If packers reduce their reliance on AMA's, this could reduce the number of branded programs and/or the size of premiums paid by packers, resulting in a significant revenue reduction for producers as a whole. For the millions of cattle sold through these programs and the numerous producers who are working on improving the quality of their animals to better fit these programs and maximize their premiums, the losses in revenue would be several tens of dollars per animal and amount to several hundreds of millions of dollars in lost revenue to the industry.

C. Hogs & Pork

Optimal use of slaughter facilities is considered to be a major issue for slaughter operations in the hog/pork sector. In many interviews, industry stakeholders stressed the importance of getting first shift slaughter operations off to a seamless start and with the daily volume that many top level hog slaughter operations have, efficiency of throughput is critical for keeping costs down.

Threats to the optimal utilization of hog slaughter and processing operations was a key concern of many of the industry stakeholders interviewed during the course of this study. In the former report, slaughter/processing firms were asked to provide their estimates of the impact of the proposed rules on their company's operational efficiency. These estimates covered a rather broad range on a per head basis. In the end, a consensus forecast was developed reflecting input from the impacted companies as well as business intelligence from the study team. It was determined that a 3% negative impact on operational efficiency would be a conservative estimate of the economic impact relative to efficient operations of most plants. This impact from the former report was held steady in the report update.

An aggregate of costs associated with efficiency loss to the pork industry was estimated somewhat in excess of $187 million.

While potential revenue loss in the pork sector due to quality issues will be substantially less than in the beef industry, it is still a major factor for the pork industry. There are many programs within the hog/pork sector where marketing agreements are in place and which pay differential prices for meeting certain quality specifications. Several slaughter/processing operations indicated that they may be required to scale back on premium based programs due to the added costs of documenting these and the uncertainties of the legal exposure that continuing these programs creates. Organic and natural programs operate under a higher cost structure than do other commercially based production systems and cost justification for such entities producing this product is possible but will occur with some added cost to the processor.

An estimate was made of the value creation resulting from various quality requirements and associated premiums and, like beef, the potential lost revenue for such programs was set at a portion of the total potential costs.

D. Supply Chain Efficiency Costs

Based on the discussion provided earlier in this document, there would appear to be a large potential cost across the two meat protein verticals related to loss of supply chain efficiencies. These costs are estimated to give a total efficiency-related impact of $705 million to the beef and pork industries as shown in Exhibit 10 below.

Exhibit 10: Meat Industry Efficiency Impact

Supply Chain	Million $
Beef	$517.1
Pork	$187.9
Total	$705.0

E. Quality Demand Revenue Impacts

One of the primary concerns raised by industry stakeholders during the active debate on the costs and merits of the proposed GIPSA rules was the impact such rules would have on the broad array of livestock alternative marketing agreements (AMAs) and other quality-oriented programs that provide product differentiation in the marketplace. Informa analyzed the potential economic impact that changes or loss of these programs might have on the meat sector and the aggregate results are presented in Exhibit 11. These impacts do not attempt to quantify the number of AMA's that might be altered or lost; they merely reflect an estimate of the economic impact that could occur depending upon how the rules were implemented and enforced and how supply chain participants might respond to the added burdens of cost justification and the threat of litigation regarding the premium price structures that exist to validate these programs. The largest economic impact will occur in the beef industry as the beef supply chain has spent many years and significant investment dollars developing a broad range of quality-driven programs that differentiate beef products and which have highly differentiated pricing incentives and supply chain participant rewards. The pork industry also has worked hard to create value differentiation in many programs whether it be for Natural pork or for products differentiated for the export market.

Exhibit 11: Meat Industry Quality/Demand Impact

Supply Chain	Million $
Beef	$373.6
Pork	$141.9
Total	$515.5

F. Livestock Auction Markets

Several interviewees suggested that the provision banning order buyers from working for more than one packer could have a significant impact on livestock auction barns throughout the country. It is well known that most barns auction a wide variety of animal types and any one individual packer is often only interested in purchasing a small subset of the animals that might be offered on any given day. Further, sales volumes at smaller, geographically isolated barns can be low which also reduces the number of animals in a daily sale that might be of interest to a particular packer. Thus a system has developed where order buyers contract with several packers to procure animals and then visit a barn on sale day to purchase animals according to each packer's needs and specifications.

GIPSA's proposed rule prohibits order buyers from purchasing livestock on behalf of more than one packer. It is immediately obvious that packer costs of animal procurement through livestock auction barns would be increased considerably if they were no longer able to "share" in the cost of putting a buyer in the smaller barns. Packer representatives were questioned about this during the interview process and several concluded that the increase in cost due to having a buyer work exclusively for them would be prohibitive and that they would very likely reduce the number of order buyers that they utilize. It then follows that those remaining order buyers would focus on the high volume sales in attempt to minimize the packer's per unit cost of procuring animals in this fashion. Informa judges this argument to be economically sound and believes that it would likely play out in the following fashion. If the rule were to be implemented as written, smaller auction barns in difficult to reach places would see an immediate decline in the number of buyers attending sales while larger, more centrally located sales would see less of an impact. Over time, prices at the smaller volume locations would decline due to the lack of competition as a result of having fewer buyers present. Eventually, livestock producers in remote locations would become discouraged by the lower prices and seek to transact their livestock at the larger barns where better buyer attendance results in higher prices. To the extent that the higher prices in large barns could offset the increased transportation cost that would be incurred to get them there, the producers would abandon their local sale barn and move animals to a bigger central barn. This sets off a death spiral as now smaller numbers will be available for sale each week and that will cause fewer buyers to incur the expense of attending. Eventually, the smaller sale barns will close their doors. The closing of these smaller sale barns would be detrimental to the local economies given the importance of them to these smaller towns. Additionally, producers that used to utilize these smaller sale barns would have to travel greater distances to other barns, causing greater stress on their animals and impacting their value.

There is another angle on the proposed rule that could impact livestock auction barns. Some respondents felt like the provision that requires packers to document all price differentials combined with the potential for litigation posed by eliminating the need to prove competitive injury would cause buyers to move away from purchasing animals on a live basis. Packers see risk in purchasing animals live because judging the economic value of animals before they are dressed is an inexact science. They fear that paying less for one animal relative to another simply because the buyer "thought" the economic value would be less could expose them to a legal claim should the animal in question actually grade better than expected once it was in carcass form. Packers have, in other circumstances, moved away from live purchasing when the risk of misjudging an important economic characteristic is too great. An example is carcass pricing that is practiced in northern cattle feeding areas where muddy feedyard conditions can make it difficult to accurately estimate carcass yield. In fact, it would be rational to argue that on average we should expect packers to pay more for the same animal in carcass form than live simply because he faces less uncertainty in the carcass transaction. Now, with the proposed rule packers have a new (and potentially very large) risk added to the live procurement process. It makes sense that would drive them in the direction of dressed pricing.

Movement to dressed pricing would imply that animals bypass the livestock auction segment of the marketing channel and move directly to the packer from the producer. This risk would likely affect all livestock auction barns regardless of size.

Both of these potential consequences (the movement away from live pricing and the death spiral at smaller barns) will have a negative impact on the livestock auction barn segment of the economy. We think that the economic impact will be far larger in small communities than in larger ones. In many smaller rural communities, the local sale barn is a hub of economic and social activity. Loss of this asset could be devastating for some small towns.

VIII. TOTAL INDUSTRY COST ESTIMATES

A. Cattle & Beef

In previous sections of this report, information was provided that identified the methodology employed in pulling together estimates of the direct and indirect costs associated with the proposed rules. This section provides the results of the analysis and, as can be seen, there will be a rather significant potential cost burden placed on the cattle and beef supply chain. For purposes of simplicity in presenting the results, supply chain costs have been aggregated into four primary categories. There will be costs incurred by the beef supply chain that are of a one-time nature and basically reflect actual cost outlays. These one-time costs for the beef industry were aggregated up from a rather large matrix of individual costs elements based on primary data submissions provided by commercial supply chain participants and supplemented by knowledge and experience based estimates provided by business consultants at Informa.

A similar process was used to develop a consensus estimate of ongoing direct costs. These costs reflect estimates developed for sustained business adjustments that would be required to comply with the proposed rules as currently written. While the one time direct costs were estimated at nearly $20 million, the ongoing direct costs were estimated to total approximately $45 million.

In addition to direct beef industry costs, two other major areas of economic impacts were identified and estimated. The US beef packing sector is a complex and highly differentiated business with optimal efficiency in the slaughter/processing sector very dependent upon the entire live animal procurement, slaughter/processing and beef product merchandising process. Disruptions in this process whether due to the wrong type of cattle arriving at the plant; too few cattle to operate at a high level of capacity or the wrong quality of product to meet various merchandising programs will all have a negative impact on operational efficiencies. This can be a major cost to the industry; estimated in this study to total over $517 million.

In addition to efficiency losses, the beef industry has spent the past 20 years developing a broad range of quality based programs; some breed specific and some branded in nature while others reflect specific product attributes that qualify the product as organic or natural. Most of these value enhanced programs center around marketing agreements that specify how the animals are going to be produced and in most cases, priced. Virtually all of these programs have imbedded in the requirements a higher cost structure and this necessitates higher prices to be paid for the animals. The premiums that are paid cover the added costs and provide an additional margin incentive to the cattle producer to assure that supplies continue to be produced.

An effort was made to calculate the value that various beef production and marketing programs have generated for the industry and a description of this evaluation is provided earlier in the report. An aggregate measure of the value enhancement to the

US beef industry was made and this totaled an estimated $734 million. While the adjustment to marketing agreements that will occur is very uncertain given the vague wording of the proposed rules, it is most certainly to be less than the maximum value-added estimate and just as certain to be greater than zero. Thus, our estimate of the quality impact (lost revenue opportunity) in the beef sector is nearly $374 million.

For the cattle and beef supply chain, these four cost components aggregate to a total industry cost of roughly $955 million. In addition to this cost, there will be costs at the sales barn/auction market level of the supply chain and possibly company-specific costs related to asset divestitures, business reorganizations and possibly acquisitions. It was noted in several industry interviews that, should the rules as written be implemented, there may be a strong incentive for further vertical integration as a counter measure to the increased exposure that the rules are certain to create from a litigation perspective.

Exhibit 12: Beef Industry Supply Chain Cost

	Million $
One Time Direct Costs	$19.6
Ongoing Direct Costs	$44.5
Cost Increase Due to Efficiency Loss	$517.1
Revenue Lost Due to Quality/Demand Impact	$373.6
Total Supply Chain Loss	$954.8

B. Hogs & Pork

For the hog and pork sector, the same analytic framework was used whereby one-time and ongoing direct costs were estimated as were costs associated with efficiency losses and revenue loss associated with quality programs. The process changes leading to direct cost impacts (both onetime and ongoing) were similar to those for the cattle and beef sector with costs totaling $98 million for one-time costs and approximately $94 million for ongoing costs.

For the hog and pork supply chain in aggregate, the potential costs associated with implementation of the proposed rules summed to $521 million. This is lower than the estimated cost for the beef industry but still a significant cost burden for the US industry to bear. The supply chain lacks sufficient margin for such an economic cost to be absorbed so ultimately, such costs will need to be borne by the consumer through higher prices; the producer through lower prices or, more likely, a combination of both. Costs of this magnitude ultimately will lead to a downsizing of the production base and, given the enhanced threat for expanded litigation, there would be incentives for industry to vertically integrate beyond current levels.

Exhibit 13: Pork Industry Supply Chain Cost

	Million $
One Time Direct Costs	$98.0
Ongoing Direct Costs	$93.6
Cost Increase Due to Efficiency Loss	$187.9
Revenue Lost Due to Quality/Demand Impact	$141.9
Total Supply Chain Loss	$521.4

C. Aggregate Beef and Pork Industry Costs

Pulling all of the cost and revenue components together, the aggregate impact of the proposed GIPSA rule for the US beef and pork industries is estimated to be $1.48 billion. This reflects a significant burden for this sector of the US economy and the impacts do not stop here.

Exhibit 14: Aggregate Economic Impacts Across Beef and Pork Sectors

	Million $
One Time Direct Costs	$117.6
Ongoing Direct Costs	$138.2
Cost Increase Due to Efficiency Loss	$705.0
Revenue Lost Due to Quality/Demand Impact	$515.5
Total Supply Chain Loss	$1,476.20

IX. SUMMARY

In 2010, Informa was commissioned to conduct a study because GIPSA had proposed a rule to implement directives in the 2008 Farm Bill without conducting a careful and credible cost analysis. This update was commissioned because this year Secretary of Agriculture's Tom Vilsack indicated the USDA will move forward with implementing the GIPSA rule, possibly finalizing it in September. With this work, we begin to fill the gap from the missing cost analysis and provide the industry and indication of the costs that are likely to arise if the rule were to be implemented as written. The rule as it currently stands strikes us as very vague and ill-defined. This has created considerable uncertainty among industry players as to what to expect once the rule is implemented.

Our original report began in 2010 with in-depth interviews of industry participants in all segments of the beef, pork and poultry supply chains. These interviews were recompleted with beef and pork packing industry participants for this update. Through these interviews we were able to gain an understanding of how companies were planning to respond to the rule and collect their thoughts on the potential costs they would incur in their response. To help quantify the cost aspect, surveys were sent directly to companies involved in each supply chain asking them to provide cost estimates on a long list of potential actions that might be required to deal with the rule. These included everything from costs associated with additional computer systems and the personnel to support them to projected costs associated with defending their firms from increased litigation as a result of the rule. These survey results were combined with professional expertise at Informa to arrive at a reasonable cost estimate for several broad categories of costs. This process also involved having the Informa study team prepare estimates of financial losses that could be expected from reduced efficiency and declining demand that was expected to arise as a consequence of the rule.

These cost and revenue loss estimates were aggregated to an industry-wide basis and worked through a simple supply-demand framework to arrive at an estimate of the change in output that was expected for each supply chain.

This work indicates that the beef and pork industries will suffer significant economic damage should the proposed rules be implemented. The fact that the estimated economic loss to beef and pork is so high highlights the potential magnitude of the unintended consequences.

Through this analysis, the Informa team came to believe that this rule could also have a substantial impact on livestock auction markets throughout the country. The rule will prohibit order buyers from purchasing cattle for more than one packer and we believe that this will cause a decline in buyers at smaller sale barns that likely set off a "death spiral" that will ultimately lead to many small rural auction barns ceasing business operations thus forcing ranchers in remote rural areas to ship animals further for sale at larger barns.

Finally, we do not expect all of the impacts described by this study to occur immediately. They will take time to evolve. In particular, the decline in beef and pork quality and the subsequent damage to consumer demand will take time to materialize and time for the full impact to be felt. For beef and pork, the full impact might not be felt until three or four years after the rule is implemented. The economic damage resulting from the rule would likely stretch for many years into the future.

It is worth noting in closing that during the course of this study, it became clear to us that the provision in the rule that relieves plaintiffs from the burden of proving competitive injury is by far the most damaging. All of the expected efficiency losses and demand decline that forms the basis for the largest portion of the costs are tied back directly to the packer/processors' fear of increased litigation and an increased likelihood that a very large financial judgment will be rendered against them. That is the factor that will drive the packers to sharply reduce their use of AMAs, which in turn creates large costs in terms of efficiency and product quality. Effects from this portion of the rule also may incentivize further vertical integration of the livestock industry. If this portion of the rule were not enacted the costs of implementation would decrease substantially.